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AUTHOR Appleford, B.; and Others
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ABSTRACT

This paper attempts to demonstrate the utility of an alternative strategy for providing evaluation data on preschool programs. Results of observational investigations of teacher-child interactions in three separate preschool settings provide evidence that the family income status, childs' sex and physical attractiveness determine to a significant extent both the number and types of contacts he or she will have with the teachers. The teachers were observed during free play periods utilizing a behavior checklist which described a set of interactions between children and teachers. The obtained results indicate that interactions between teachers and children are exceedingly complex and influenced by various child-characteristics and individual differences between teachers. However, variations among the preschool settings were too numerous to allow for general conclusions or generalizations to other preschool settings. (YRJ)

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Teacher-Child Interactions as Related to Sex, Socio-Economic Status and Physical Attractiveness[1]

B. Appleford, P. Fralick, and T.J. Ryan

Carleton University

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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For the past decade, there has been varying support and lack of support, accompanied by jubilation and frustration, respectively, regarding the effectiveness of preschool programs presented within the context of early childhood enrichment for disadvantaged children. Presently, there appears to be sufficient cause for concern over the unreliable nature of the long term benefits resulting from head start preschool programs. A dilemma is created by this state of affairs because the evidence which lead to the head start movement in 1965 (e.g., Bloom, 1964; Hunt, 1961; Ryan, 1972) is even stronger in 1976 in lending credence to the notion that the environmental experiences encountered during the early years bear important relationships to later behavior.

Until recently, most investigations of the effects of preschool programs have concentrated on pre- and post-program measures primarily of cognitive functioning. It is the fact that gains in such measures have not been reliable (e.g., Bee, 1974; Bereiter, 1974; Ryan & Moffitt, 1974) which has led to some state of confusion.

A recent example was provided in an extensive experimental investigation of 14 preschool programs for disadvantaged children (Miller & Dyer, 1975).

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Gains in IQ and achievement levels were found in all programs. However, program effects which could still be inferred after four years were in non-cognitive areas. In fact, there was a decline in IQ for the children in all programs with the greatest decline appearing in those programs which originally showed the greatest impact.

Certain criticisms of earlier evaluation research have concentrated upon methodological issues such as (a) an insufficient emphasis having been placed upon the operational characteristics and the implementation of program models (Miller & Dyer, 1975), (b) the failure to include the measure of many dependent and situational variables (Messick & Barrows, 1972), and (c) the suggestion that impact-evaluative research has been naively unrealistic in attempting to apply the experimental model (Ryan & Moffitt, 1974). The present paper fits within a program of research which has attempted to demonstrate the utility of an alternative strategy for providing evaluation data on preschool programs. Within this context, the results of three observational investigations of teacher-child interactions will provide evidence that a child's income status, sex and physical attractiveness determine to a significant extent both the number and the types of contacts he or she will have with the teachers.

Three separate preschools were involved in this research and their essential characteristics are presented in Table 1. The operations and philosophies of all three schools corresponded to the description given by Miller and Dyer (1975) of traditional preschools in which emphasis is given to each child's development at a natural pace. A flexible curriculum aims to make stimulation available coincident with a child's interests. During most of the program, the children are free to play in any activity

of the school. Each school included low income children with the specified aim of providing them with school readiness skills. All schools espoused a policy of minimizing sex-role expectations and the activities in the programs did not exclude children of either sex. No school indicated any policy with respect to a child's physical attractiveness.

The teachers were observed during free play periods utilizing a behavior checklist which describes a set of interactions between teachers and children (see Table 2). These behaviors are divided into three broad categories. Instructional contacts include specific instructional interactions as well as those which provide instrumental assistance. Social contacts refer to (a) interactions directed to praise and encouragement of children's achievements or behaviors, (b) personal, friendly advances not connected with a particular activity, and (c) teacher behaviors which provide comfort or protection. Discipline and control contacts are those which occur in response to children's negative behaviors. The observational procedure allowed for recordings of types of contacts, initiators or contacts, names of children and the area in which the contacts occurred.

The four teachers in School A were observed separately, for six hours each, in 18 time samples of 20 minutes. With one exception, the teachers in Schools B and C were observed separately for 10 hours each, in time samples of five minutes. For one of the teachers, the observations totalled only seven and one-half hours. The time samples were varied so that no teacher was observed for two consecutive samples. Likewise, care was taken to observe each teacher on a comparable basis over each day of the week. Observations in School A took place in the spring of 1974 and in

Schools B and C in the fall of 1975.

Interobserver reliability was assessed early, mid-way and near the end of the observational periods. For School A, reliability percentages were 92%, 97.7% and 95%. For School B, percentages were 87.1%, 84.4% and 93%, and for School C, 86.4% and 93.7%.

A thorough presentation of the complex set of results is impossible within the present restraints. As an aid to understanding the results, it should be noted that the main statistic employed was a chi-square analysis and all findings reported can be assumed to be at the .05 level or better. A certain element of consistency in the direction of the findings should be evident as the results are reported. However, in those situations where the directions of the findings are not congruent with previous findings, the element of consistency comes from the fact that the variables of interest, sex, socio-economic status and physical attractiveness of the child, are variables of considerable importance in determining the quantity and quality of interactions between preschool teachers and children.

The first results to be reported are those obtained from School A (Appleford, 1974). With respect to sex of the child, it was found that the males received fewer social contacts with the teachers, attributable to the fact that the teachers actually initiated a greater number of social contacts with the girls. In addition, the teachers initiated more disciplinary and control contacts with the boys than with the girls. With respect to socio-economic status, it was shown that the middle income children received more social and instructional contacts than the low income children, while the latter were the more frequent recipients of

disciplinary and control contacts. Analyses of the interactions between sex and income groups revealed that middle-income females were the main recipients of teacher-initiated instructional contacts whereas, the low-income males received less social and more disciplinary contact than all other groups.

Although one can show this pattern of findings across teachers, it is important to note that there were significant differences between the teachers with respect to the initiation of contacts across categories of behaviors and there were slight variations in the treatment of sex and income groups by the various teachers.

In order to preclude the possibility of generalizing too extensively from data obtained from one preschool setting with a particular group of teachers and a particular group of children, an additional study was planned covering two schools, seven additional teachers, two of whom were males, and a greater amount of observational data. At the same time, we became interested in the possibility that, in addition to sex and socio-economic status, a child's physical attractiveness might also influence his or her interactions with teachers.

Since observational data already existed for School A and photographs of the children had been retained by the school, one needed only to rate the photographs in terms of physical attractiveness in order to collect pilot data on the possible importance of this variable (Appleford, 1975). The photographs were rated by 20 university students on 7-point scale ranging from most unattractive to most attractive. Photographs selected for further analyses were those whose mean ratings fell in the extremes of the scale with a standard deviation not greater than 1.5. Twenty-nine

photographs met these criteria.

The finding of main importance was that low attractive children received more disciplinary contacts than the high attractive children. In fact, possibly because of this, the low attractive children received more adult-initiated contact overall than the high attractive children. A further breakdown of these data isolated the high attractive females as the groups receiving the least adult-initiated contact. In view of the above, physical attractiveness was included along with sex and income status, in the larger study conducted in Schools B and C following the same procedures.

For School B, the data for the morning and afternoon sessions were analyzed separately because the morning session had almost twice as many children and a higher proportion of middle-income children as compared to the afternoon.

In the morning session, males obtained fewer instructional and more disciplinary contacts than females. This held true for both child and adult-initiated contacts. In the afternoon, females received more social contacts and fewer disciplinary contacts from the teachers than did the males.

The socio-economic status of the children again proved to be a significant factor. For the morning group, middle-income children obtained more instructional and social contacts with teachers and less disciplinary contacts than low-income children. The teachers also initiated more social contact with middle-income children and more discipline and control contacts with the low-income children. The only differences that appeared in the afternoon session were in adult-initiated contacts, where adults initiated

more social and less disciplinary contact with middle-income than low-income.

While the above results are reasonably consistent with our previous results (Appleford, 1974), the interactions between sex and income characteristics proved to be of greatest importance when examined between morning and afternoon sessions. In the afternoon session, low-income males received more contacts of all types as compared with low-income females or middle-income males. Thus, although the low-income boys were still receiving a disproportionate amount of disciplinary contact, they were also the recipients of more instructional and social contacts. For the middle-income group, the girls received more contacts of all types as compared with the low-income girls or middle-income boys. Thus, the middle-income girls and the low-income boys shared essentially the same status in their interactions with the teachers.

For School C, in which it will be recalled, there were only low-income children, no differences whatsoever occurred in the quantity or quality of teacher-child interactions of any sort.

As a final phase of the research, the photographs of the children in School B were rated for physical attractiveness and 20 of the pictures attained the previously defined criteria. A more substantial body of findings appeared than in the pilot study (Appleford, 1975). In terms of social contacts, the low attractive children initiated more contacts with the teachers as compared with the high-attractive children. Apparently, this relationship was reciprocal because the teacher-initiated social contacts followed a similar pattern. With respect to disciplinary contacts, both the children and the teachers initiated more contacts with

the high than with the low attractive children; this finding was particularly true in the case of low-income children.

In breaking down the sex differences, it was found that the low attractive males obtained fewer social contacts than all other subgroups, whereas the low attractive females received more social and few disciplanary contacts than all other groups.

As in the earlier study (Appleford, 1974), there were significant differences among teachers on all dimensions concerned and in both School B and School C. While it is not the purpose of this paper to present individual teacher profiles, the results which differentiate male and female teachers may merit attention. In School B, the male teacher spent the largest proportion of observed time in the Active area (containing climbing structures, large blocks, trucks, etc.) and a larger proportion of time than all other teachers in the Outside area. Two of the three female teachers spent the largest proportion of their time in the Creative area (containing such activities as painting, pasting and modelling). In School C, the male teacher spent more than half of the observed time in the Active area and the female teachers spent a very large proportion of time in the Creative area. Toys and activities in these areas were similar in Schools B and C.

For the male teacher in School B, child-initiated contacts outnumbered adult-initiated contacts. Children-initiated less instructional and more social contact than expected with the male teacher and he in turn initiated fewer instructional contacts than expected. The patterns for the female teachers in this school varied but were usually in the opposite directions. In many instances and in contrast to the female teachers, the

male teacher contacted males more often than females and low-income children more often than middle-income children.

For the male teacher in School C, the patterns were similar. The results included more instrumental and social contact for both child- and adult-initiated contacts and a suggestion of more contacts with males than females.

Significantly, in the afternoon session of School B, the male and female teachers differed, but not in the same fashion. In many instances, the male teacher and one female teacher were found to reverse their patterns of interaction as compared to the morning session.[2]

Our experience with this research has led to two important conclusions: first, caution should be exercized in the generalization of results obtained from any particular school; second, there are several variables which should be considered in such investigations.

With regard to the first point, the variations among preschools were clearly too numerous to allow for meaningful general conclusions or predictions which could apply to other settings. While there were similarities among the programs, there were also striking differences in the degree of complexity of patterns of interactions (School A vs. School B) and in the presence or absence of sex differences in interactions

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[2] We are presently in the process of testing for age-related interactions. These results will be reported in a later paper. Questionnaires for teachers were constructed to allow comparisons between teachers' beliefs and their own reports of interactions with children, and the information gained through observation. At the time of writing all questionnaires had not yet been received.

(School B vs. School C). In School B, differences occurred between morning and afternoon sessions of the same preschool with the same teachers. These findings provide support for Swift's (1964) conclusion that preschool settings and teachers may vary too widely to allow generalizations from one to another.

Regarding the second conclusion, the results of these studies have clearly indicated that interactions between teachers and children are exceedingly complex and are influenced by the child-characteristics of sex, income status and physical attractiveness, by the sex of the teachers and most likely, by individual differences between teachers.

Program goals in the preschools studied included the provision of certain positive experiences for low-income children and the maintenance of non-discriminative interactions for males and females. These goals, at least with respect to teacher-child interactions, did not appear to be realized, in particular in School A and School B. Other investigators have also shown that the behavior of teachers does not always reflect their goals (e.g., Ezrin, 1971; Moffitt & Ryan, 1973; Serbin, O'Leary, Kent & Tonich, 1973). It is evident that there is a need to provide teachers with feedback on their own behavior as well as that of their students. Teachers and educators of teachers could profit from the opportunity to compare overall goals, and goals for specific sub-groups of children to actual day-to-day occurrences in the classroom. If the type of research illustrated in this paper were combined with relevant outcome measures, the result would be a useful tool for educators in planning and carrying out more effective preschool programs.

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